NBOX-5040

Network Computing

User's Manual

Version 1.0

SINTRONES It's different

SINTRONES® Technology Corp.

User Manual

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This device complies to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must withstand any background interference including those that may cause undesired operation.

Safety Information

Read the following precautions before setting up a SINTRONES Product.

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

CAUTION

Incorrectly replacing the battery may damage this computer. Replace only with the same or its equivalent as recommended by SINTRONES® Technology Corp. Dispose used battery according to the manufacturer's instructions.

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1 Function Introduction

■ Overview

The NBOX-5040 is a compact fanless box and low power consumption Network security platform which was customized design to be served as a security gateway, for instance, anti-virus, anti-spy, IDS/IPS, VPN and UTM applications. This embedded hardware platform is based on a 5.25” industrial SBC with Intel® Atom™ Processor N270 (512K Cache, 1.60 GHz, 533 MHz FSB), 945GSE/ICH7M chipset, and DDR2 533 SO-DIMM up to 2GB. Featured are a 2.5” SATA hard drive bay, CompactFlash Type II slot, Four GbE, One Mini-PCI Express socket, Two LED indicators, One Factory Default switch button.

☞ Check list

- Take out the NBOX-5040 from the carton box, check if the unit is properly secure in the plastic bag.
- Check the contents of the carton box:
  - 1 x NBOX-5040
  - 1 x Drivers / Manual CD
  - 1 x Console cable
  - 1 x Power Adapter
  - 1 x Power Cord (optional)
  - 1 x 2.5" HDD kit (optional)

☞ Feature

- Fanless design and low power consumption
- Compact size
- 4 x GbE
- 1 x Mini-PCI Express socket
- Cost effective Network platform solution
- Flexible Software Control Bypass
- Friendly LED indicators (Software status, Alarm)
- 1 x 2.5" SATA HDD, CF card

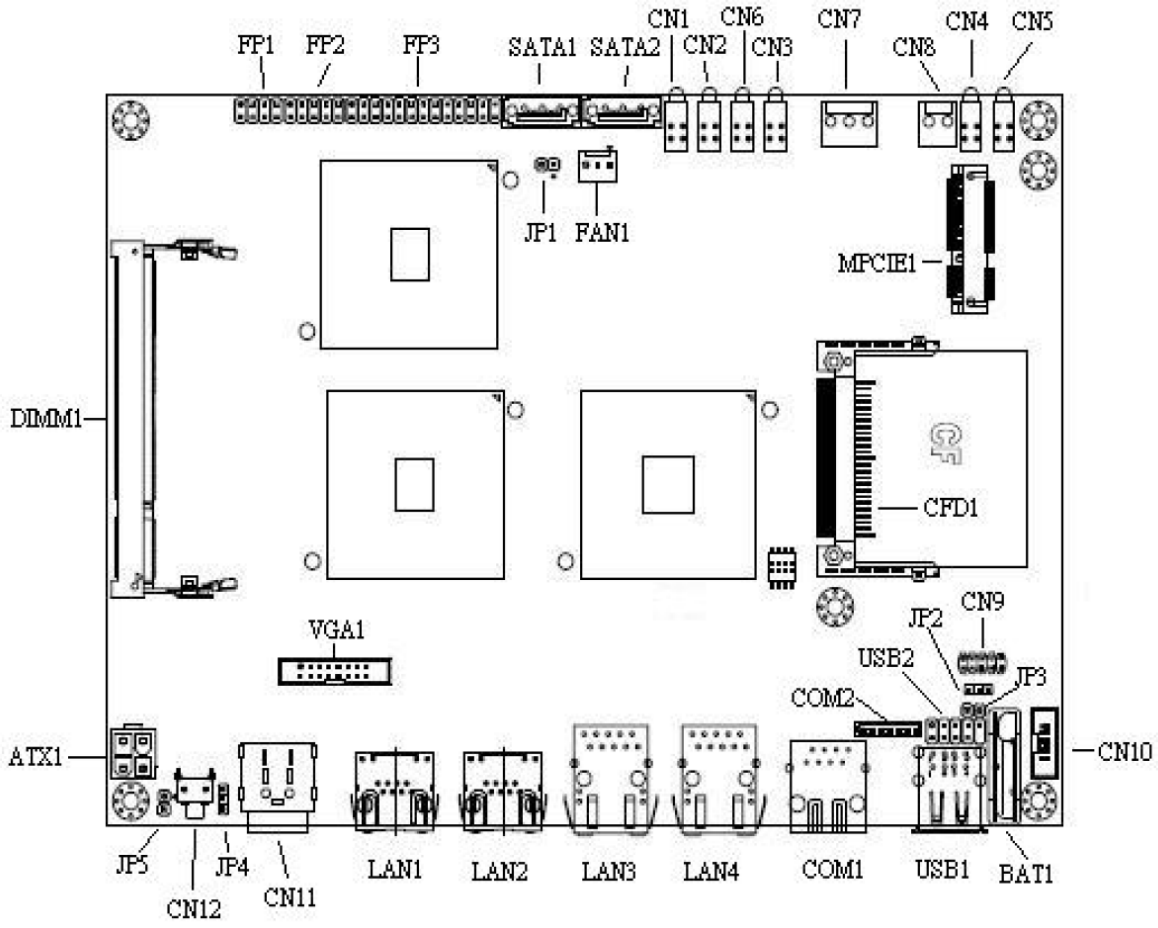
■ 1.1 Model Specifications

CPU	• Intel Atom 1.6GHz Ultra Low Power CPU onboard
Cache	• 512KB L2 Cache
Memory	• 1 x DDR2 SO-DIMM Socket, 2GB per DIMM (Max 2GB) • DDR2 533MHz supported
Chipsets	• Intel 945GSE + ICH7M
Watchdog	• 1 ~ 255 Level
Serial Port	• 2 x Console Port
USB Port	• 4 x USB 2.0 compliant (2 x Rear I/O with LAN)
LAN	• 4 x Gigabit Ethernet (Intel 82574L), Optional Eth0 & 1 Bypass • IEEE 802.3u 100Base-T specification compliant • 10MB/s, 100MB/s, 1GB/s • Support Wake-On-LAN function
Expansion	• 1 x Mini-Card for Wireless 802.11b/g/n Module (Optional)
Graphics Chipset	• Intel GMA 950 256bit 3D engine with a powerful 166MHz core and DirectX 9 3D hardware accelerationt
Graphics VRAM	• Dynamic Video Memory Technology(DVMT)3.0 • supports up to 224MB of Video memory
Storage Interface	• 1 x 2.5" SATA HDD • 1 x CF

Front View	
LED	• Power LED • Bypass LED • Status LED • Alarm LED • Act/Link LED for LAN1~LAN4 • Speed LED for LED for LAN1~ LAN4
Rear View	
LAN Port	• 4 x Intel 82574L Gigabit LAN ports
COM Port	• 1 x RJ45 Console
USB Port	• 2 x USB 2.0 ports
Power	• 12V DC Power Jack Input
Button	• Switch button for Factory Default
Dimension	• 219(W) x 40(H) x 151(D) mm
Construction	• Aluminum
Operating Temp.	• 0°C ~ 40°C, 5%-90%, non-condensing
Storage Temp.	• -20°C ~ 70°C, 5%-90%, non-condensing

■ 1.2 NBOX-5040 Illustration

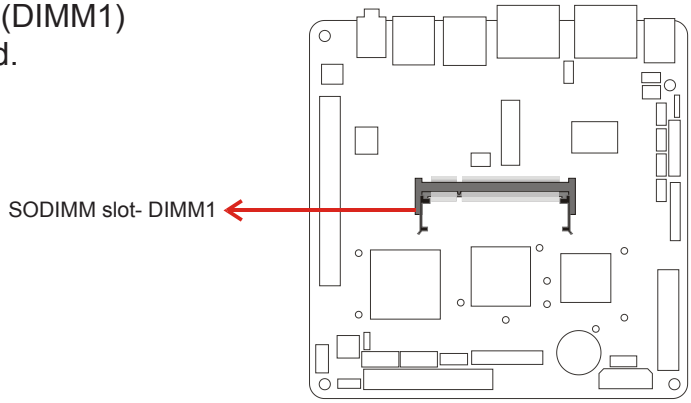
☞ Mainboard



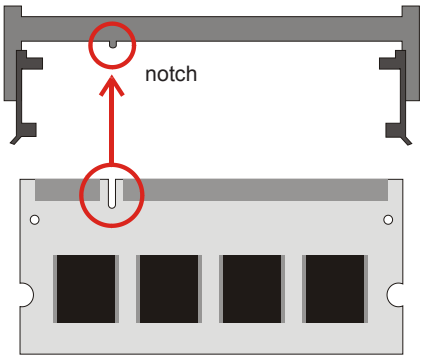
■ 1.3 Memory Module Installation

The NBOX5020 provide one 200pins SODIMM slot for DDR2 533/667MHz SDRAM memory modules and supports memory sizes up to 2GB.

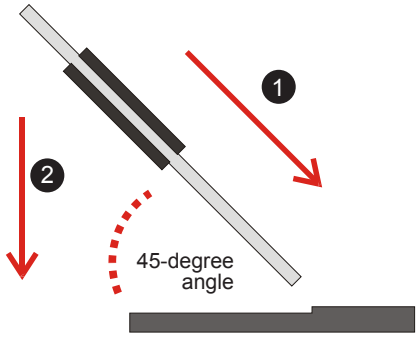
Step 1. Locate the SODIMM (DIMM1) slot on the mainboard.



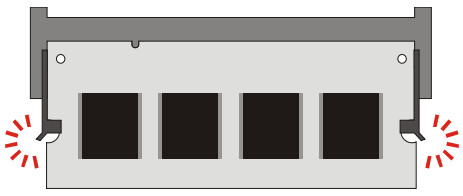
Step 2. Align the notch of the memory module with that of the memory slot.



Step 3. Gently insert the module into the slot at a 45-degree angle.



Step 4. Push the memory down until it snaps into the locking mechanism.



■ 1.4 Connectors & Jumpers Guide

Jumper List

Location	Function	BIOS	Result
JP1	AT/ATX Mode Selection		
JP2	WDT Signal Selection		
JP3	Clear CMOS Selection		
JP4	LAN Bypass Signal Selection		
JP5	LAN Bypass function Selection		

Connector List

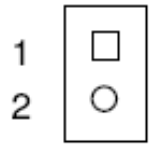
Location	Function	BIOS	Result
BAT1	CR2032 Battery Holder		
CFD1	Compact Flash type I/II Connector		
VGA1	VGA Box Header		
CN1	LAN4 ACT# / STATUS LED		
CN2	LAN3 ACT# / STATUS LED		
CN3	LAN1 ACT# / STATUS LED		
CN4	GPIO Status LED		
CN5	Bypass Function Status LED		
CN6	LAN2 ACT# / STATUS LED		
CN12	User Define		
MPCIE1	Mini PCIE Connector		
DIMM1	DDR2 Memory SO-DIMM Socket		
USB1	USB Connector		
USB2	USB Port-2&3 Pin Header		
ATX1	4 pin 12V Power in Connector		
FAN1	CPU FAN Connector		
SATA1	Primary SATA Connector		
SATA2	Secondary SATA Connector		
FP1	Power LED Pin Header		
FP2	Front Panel Pin Header		
FP3	External LED Board Pin Header		
CN7	Power Out Connector		
CN8	Power Out Connector		
CN10	LPC Debug Header		

Rear Panel Connector List

Location	Function	BIOS	Result
CN11	Extemal Adapter Power Input Connectior		
LAN1	10/100/1000 Ethernet RJ-45 Connector		
LAN2	10/100/1000 Ethernet RJ-45 Connector		
LAN3	10/100/1000 Ethernet RJ-45 Connector		
LAN4	10/100/1000 Ethernet RJ-45 Connector		
COM1	RS232 of RJ-45 Connector		
COM2	RS-232 Port-2 Box Header		

Jumper Setting

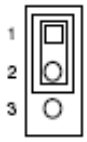
- **Power Mode Selection (JP1)**



Jumper	Status
Open	AT Mode
Short	ATX Mode

Pitch:2.0mm [YIMTEX 3291*02SAGR(6T)]

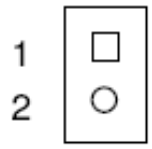
- **WDT Signal Selection (JP2)**



Setting	Status
1-2 Short	WDT TO BYPASS
2-3 Short	WDT TO SYSTEM

Pitch:2.0mm [YIMTEX 3291*02SAGR(6T)]

- **Clear CMOS Selection (JP3)**



Setting	Status
1-2 Open	Normal Operation
1-2 Short	Clear CMOS

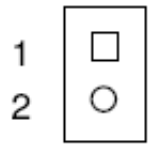
Pitch:2.54mm [YIMTEX 3321*02SAGR]

- **LAN Bypass Signal Selection (JP4)**

Jumper	Status
1-2 Short	WDT
2-3 Short	SIO GPIO

Pitch:2.0mm [YIMTEX 3291*02SAGR(6T)]

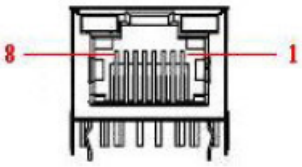
- **LAN Bypass Function Selection (JP5)**



Setting	Status
Open	Bypass Disable
Short	Bypass Enable

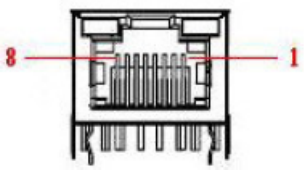
Pitch:2.0mm [YIMTEX 3291*02SAGR(6T)]

- **RS-232 Port-1 RJ45 Connector (COM1)**



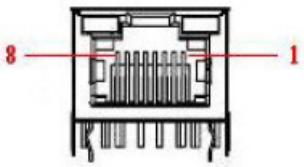
Pin	Signal
1	DCD
2	DSR, Data set ready
3	RXD, Receive date
4	RTS, Request to send
5	TXD, Transmit data
6	CTS, Clear to send
7	DTR, Data Terminal ready
8	RI

- **Giga-bit Enternet RJ-45 Connector (LAN1)**



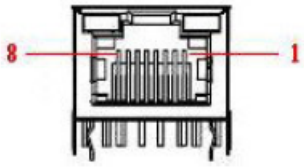
Pin	Signal
1	MDI[0]+
2	MDI[0]-
3	MDI[1]+
4	MDI[1]-
5	MDI[2]+
6	MDI[2]-
7	MDI[3]+
8	MDI[3]-

- **Giga-bit Ethernet RJ-45 Connector (LAN2)**



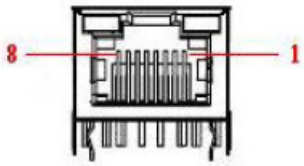
Pin	Signal
1	MDI[0]+
2	MDI[0]-
3	MDI[1]+
4	MDI[1]-
5	MDI[2]+
6	MDI[2]-
7	MDI[3]+
8	MDI[3]-

- **Giga-bit Enternet RJ-45 Connector (LAN3)**



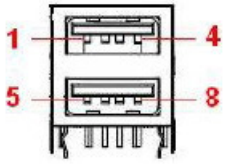
Pin	Signal
1	MDI[0]+
2	MDI[0]-
3	MDI[1]+
4	MDI[1]-
5	MDI[2]+
6	MDI[2]-
7	MDI[3]+
8	MDI[3]-

- **Giga-bit Enternet RJ-45 Connector (LAN4)**



Pin	Signal
1	MDI[0]+
2	MDI[0]-
3	MDI[1]+
4	MDI[1]-
5	MDI[2]+
6	MDI[2]-
7	MDI[3]+
8	MDI[3]-

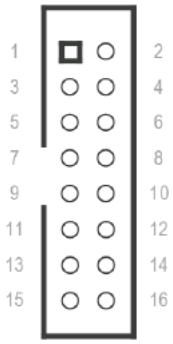
- **USB1**



Pin	Signal Name	Pin	Signal Name
1	+5VSB	5	+5VSB
2	USB1-	6	USB0-
3	USB1+	7	USB0+
4	GND	8	GND

Connector Pin Assignment

- **VGA BOX HEADER (VGA1)**



Pin	Signal	Pin	Signal
1	VGA_R	2	VGA_G
3	VGA_B	4	N.C.
5	GND	6	GND
7	GND	8	GND
9	+5V	10	GND
11	N.C.	12	VGA_SDATA
13	VGA_HS	14	VGA_VS
15	VGA_SCLK	16	GND

- **Compact Flash type I/II Connector (CFD1)**

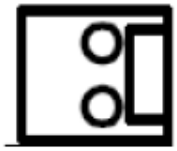
Pin	Signal	Pin	Signal
1	GND	26	GND
2	SDD3	27	SDD11
3	SDD4	28	SDD12
4	SDD5	29	SDD13
5	SDD6	30	SDD14
6	SDD7	31	SDD15
7	SDCS#1	32	SDCS#3
8	GND	33	GND
9	GND	34	SDIOR#
10	GND	35	SDIOW#
11	GND	36	+5V
12	GND	37	IDEIRQ15
13	+5V	38	+5V
14	GND	39	PCSEL
15	GND	40	NC
16	GND	41	SIDERST#
17	GND	42	SIORDY
18	SDA2	43	NC
19	SDA1	44	SDDACK#
20	SDA0	45	IDEACT#
21	SDD0	46	S66DECT
22	SDD1	47	SDD8
23	SDD2	48	SDD9
24	IOIS16#	49	SDD10
25	GND	50	GND

- **RS-232/422/485 Wafer (COM2)**

Pin	Signal
1	DCD, Data carrier detect
2	DSR, Data set ready
3	RXD, Receive date
4	RTS, Request to send
5	TXD, Transmit data
6	CTS, Clear to send
7	DTR, Data Terminal ready
8	RI, Ring indicator
9	GND, Ground
10	+5V

Pitch:1.25mm [YIMTEX 501MW1*10STR]

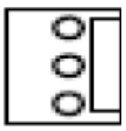
- **+5V Power Output Connector (CN8)**



Pin	Signal Name
1	+5V
2	GND

Pitch:5.08mm [YIMTEX 541FW4RTR]

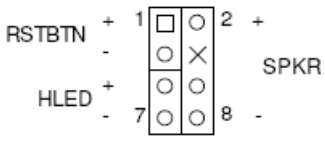
- **+12V & +5V Power Output Wafer (CN7)**



Pin	Signal Name
1	+5V
2	GND
4	+12V

Pitch:2.5mm [YIMTEX 512CW4RTR]

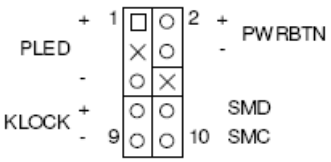
- **Front Panel 1 Pin Header (FP1)**



Pin	Signal Name	Pin	Signal Name
1	Reset Button +	2	Speaker +
3	Reset Button -	4	NC
5	HDD LED +	6	NC
7	HDD LED -	8	Speaker -

Pitch:2.54mm [YIMTEX 3322*04SAGR]

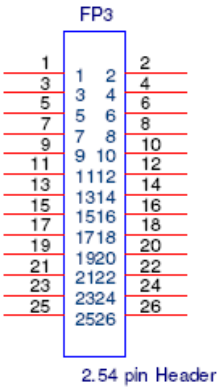
- **Front Panel 2 Pin Header (FP2)**



Pin	Signal Name	Pin	Signal
1	Power LED +	2	Power Button +
3	NC	4	Power Button -
5	Power LED -	6	NC
7	Keyboard Lock	8	SMBus Data
9	GND	10	SMBus Clock

Pitch:2.54mm [YIMTEX 3322*05SAGR]

- **Front Panel 3 Pin Header (FP3)**

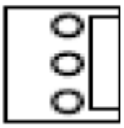


Pin	Signal Name	Pin	Signal
1	LAN1_ACT	2	LAN1_ACT#
3	LAN1_1000#	4	LAN1_100#
5	LAN2_ACT	6	LAN2_ACT#
7	LAN2_1000#	8	LAN2_100#
9	LAN3_ACT	10	LAN3_ACT#
11	LAN3_1000#	12	LAN3_100#
13	LAN4_ACT	14	LAN4_ACT#
15	LAN4_1000#	16	LAN4_100#
17	HDD_ACT	18	HDD_ACT#
19	+5VSB	20	+SUSLED
21	+5VSB	22	+BYPASSLED
23	+5VSB	24	+AlarmLED
25	+5VSB	26	+STATUS

Pitch:2.54mm [YIMTEX 3322*05SAGR]

- **DDR2 Memory SO-DIMM Socket (DIMM1)**
  [FOXCONN AS0A426-N6SN-4F]

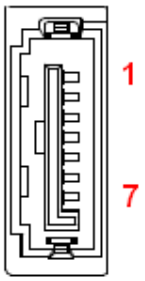
- **System FAN1 Connector (FAN1)**



Pin	Signal Name
1	RPM
2	+12V / +5V Note : Selected by JP1
3	GND

Pitch:2.5mm [YIMTEX 521AW1*03STR]

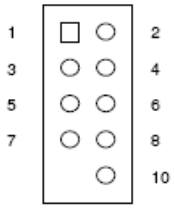
- **SATA Connector (SATA1, SATA2)**



Pin	Signal Name
1	GND
2	SATA_TXP
3	SATA_TXN
4	GND
5	SATA_RXN
6	SATA_RXP
7	GND

[WIN WIN WATA-07DPLS4U]

- **USB Port Pin Header (USB2)**



Pin	Signal Name	Pin	Signal Name
1	+5VSB / +5V Note : Selected by JP2	2	+5VSB / +5V Note : Selected by JP2
3	USB_A-	4	USB_B-
5	USB_A+	6	USB_B+
7	GND	8	GND
9	Key	10	GND

Pitch:2.54mm [YIMTEX 3322*05SAGR(6T)-09]

2 System Installation

■ 2.1 System Introduction

Refer to the diagrams below to identify the components of the system.

☞ Front Panel

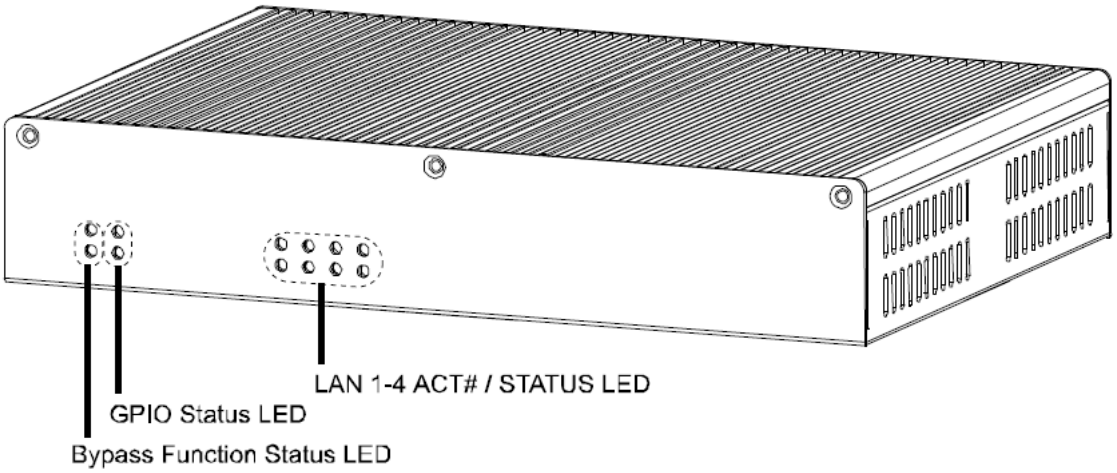


Figure 1 Front Panel

Table 2 LAN 1-4 ACT# / STATUS LED

green/ orange

yellow

Status / Led	Orange / Green	Yellow
No link	Off	Off
10M link	Off	Off
10M active	Off	Blink
100M link	Green on	Off
100M active	Green on	Blink
1000M link	Orange on	Off
1000M active	Orange on	Blink

Table 3 GPIO Status LED

green Status

red Alarm

Table 4 Bypass Function Status LED

green Power Led

yellow ByPass GPIO

☞ Rear Panel

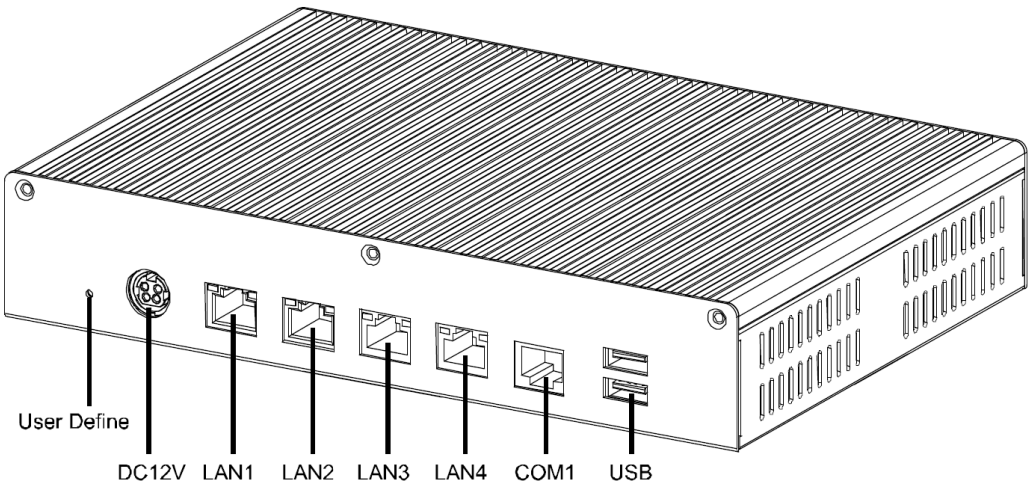
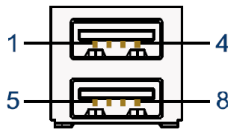


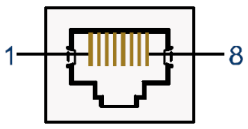
Figure 2 Rear Panel

Table 5 USB Connectors



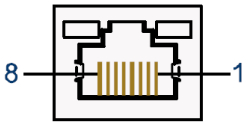
Pin	Signal Name	Pin	Signal Name
1	+5VSB	5	+5VSB
2	USB1-	6	USB0-
3	USB1+	7	USB0+
4	GND	8	GND

Table 6 COM1, RS-232 Port-1 RJ45 Connector



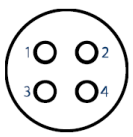
Pin	Signal	Pin	Signal
1	DCD	5	TXD, Transmit data
2	DSR, Data set ready	6	CTS, Clear to send
3	RXD, Receive data	7	DTR, Data terminal ready
4	RTS, Request to send	8	RI

Table 7 LAN1-4, Giga-bit Ethernet RJ-45 Connector



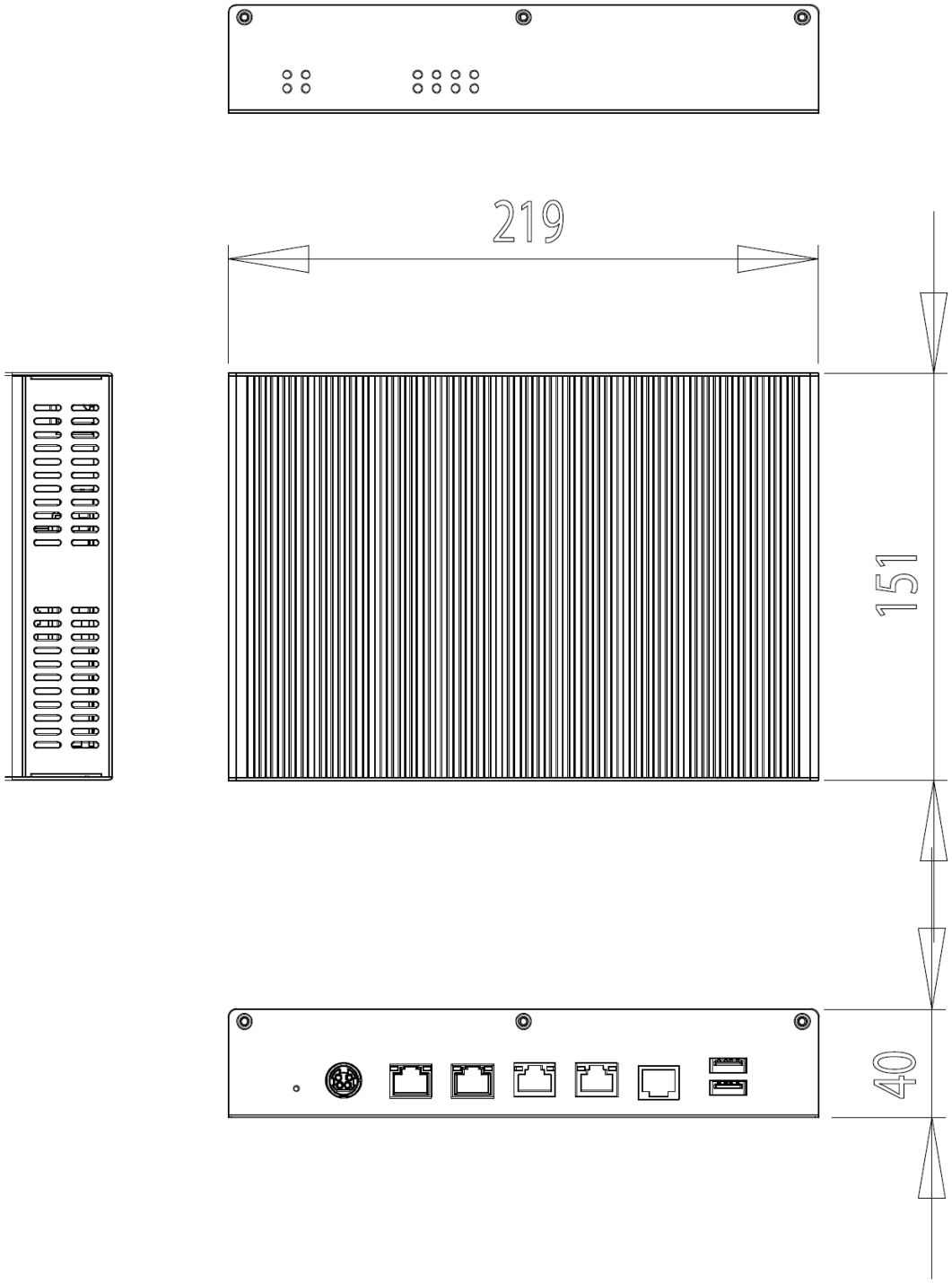
Pin	Signal	Pin	Signal
1	MDI[0]+	5	MDI[2]+
2	MDI[0]-	6	MDI[2]-
3	MDI[1]+	7	MDI[3]+
4	MDI[1]-	8	MDI[3]-

Table 8 DC-IN Connectors



Pin	Signal Name
1	+12V
2	+12V
3	GND
4	GND

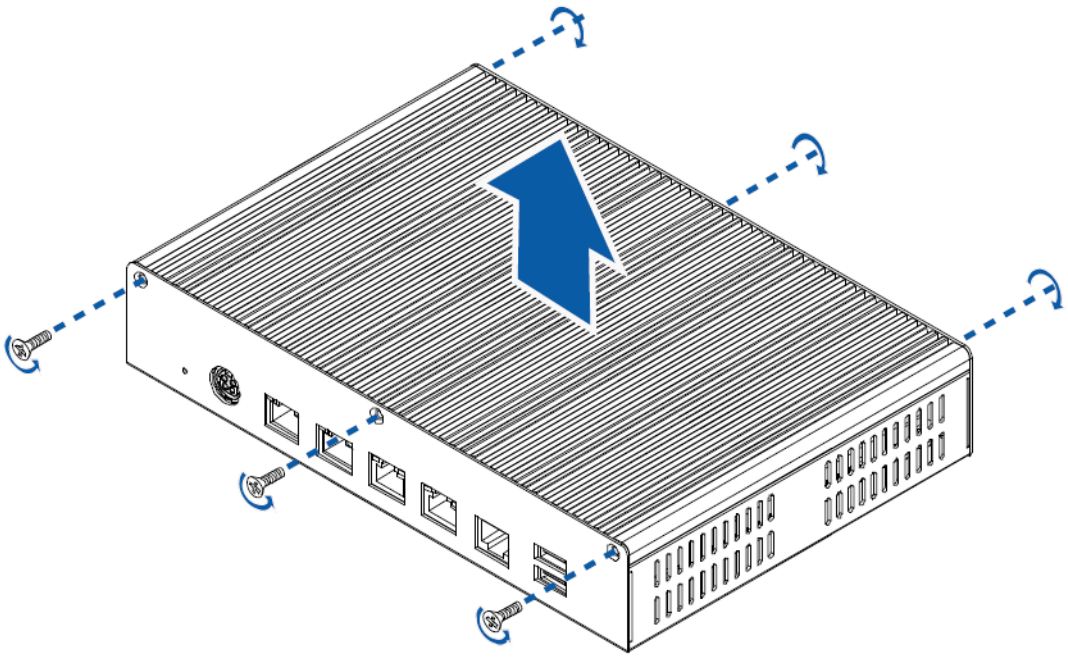
☞ Mechanical Dimensions

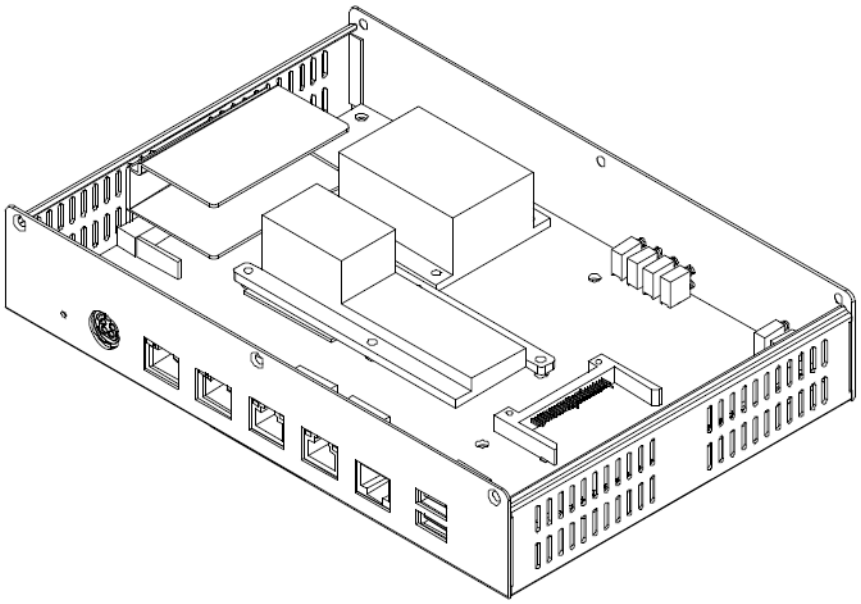


■ 2.2 Opening Chassis

Step 1. Lossen the 6 flashead screws from front and rear side of the computer.

Step 2. Remove the chassis cover off the chassis base.



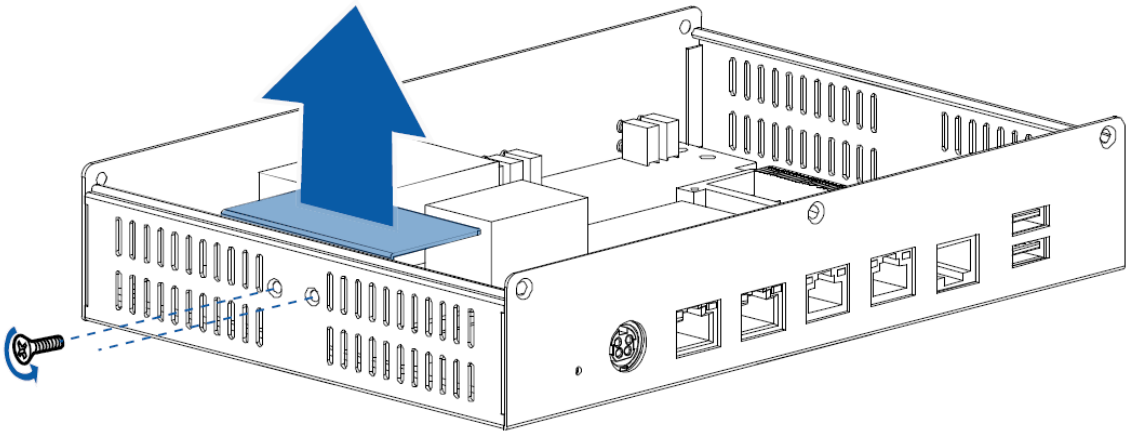


■ 2.3 Memory Module Installation

Before the memory module installation, you have to remove the RMA cooler from the chassis.

Step 1. Lossen the 6 flashead screws from front and rear side of the computer.

Step 2. Remove the chassis cover off the chassis base.

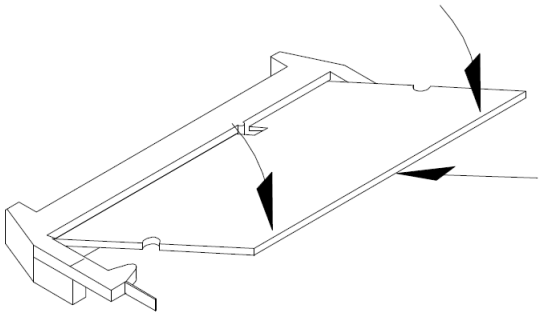


Carefully follow the steps below in order to install the DIMMs:

1. To avoid generating static electricity and damaging the SO-DIMM, ground yourself by touching a grounded metal surface or use a ground strap before you touch the SO-DIMM.

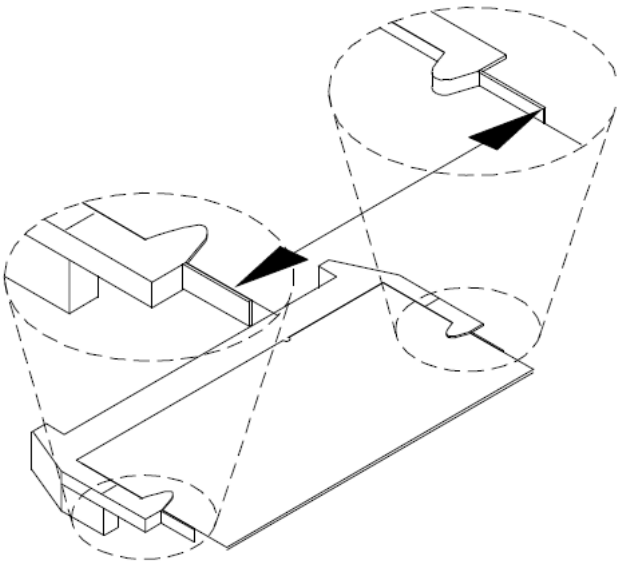
2. Do not touch the connectors of the SO-DIMM. Dirt or other residue may cause a malfunction.

3. Hold the SO-DIMM with its notch aligned with the memory socket of the board and insert it at a 30-degree angle into the socket.



4. Fully insert the module into the socket until a “click” is heard.

5. Press down on the SO-DIMM so that the tabs of the socket lock on both sides of the module.



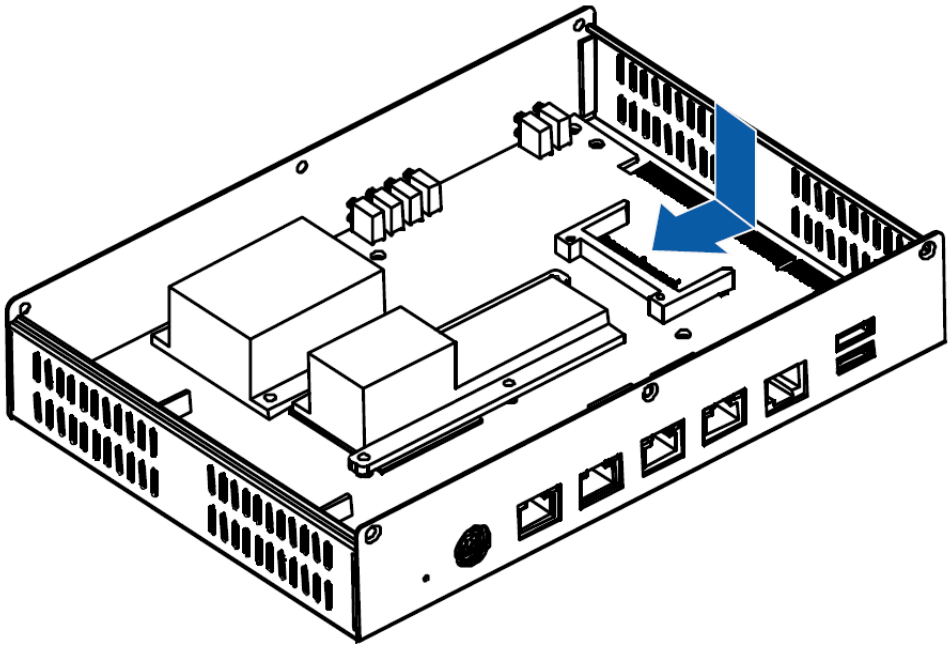
6. Secure the RAM cooler back to the chassis.

Removing a DIMM:

To remove the SO-DIMM, use your fingers or a small screwdriver to carefully push away the tabs that secure either side of the SO-DIMM. Lift it out of the socket. Make sure you store the SO-DIMM in an anti-static bag. The socket must be populated with memory modules of the same size and manufacturer.

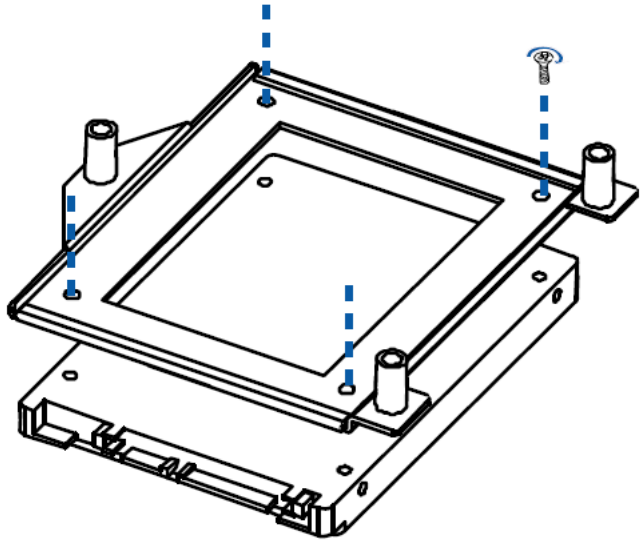
■ 2.4 CompactFlash Card Installation

See figure below for CompactFlash card installation.

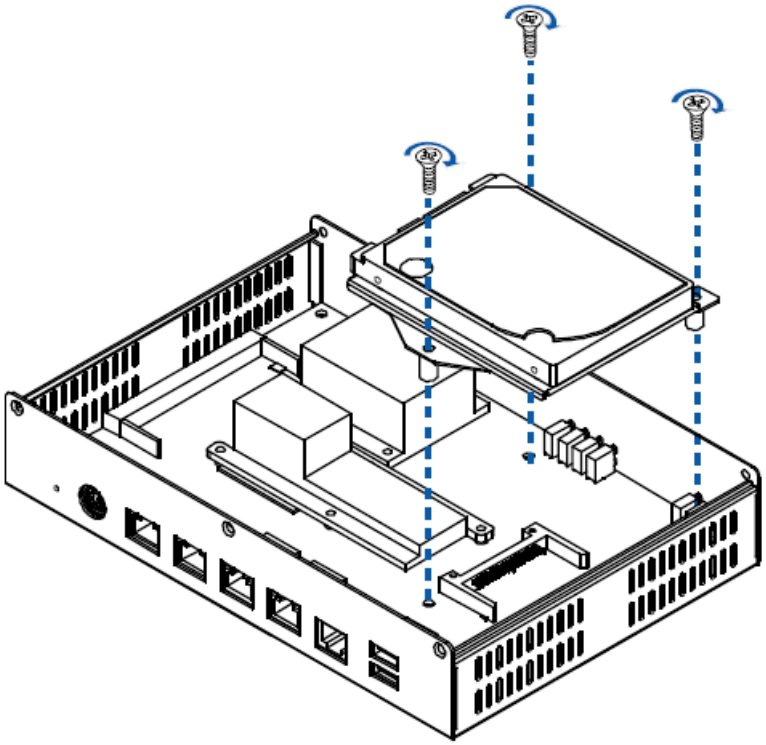


■ 2.5 HDD Installation

Step1. Secure the hard hard drive to the brackets using the 4 short screws provided.



Step2. Secure the bracket to the chassis and connecting the SATA data & power cables to the HDD and motherboard



3 BIOS

■ 3.1 Entering The BIOS

The NBOX-5040 BIOS ROM has a built-in Setup program that allows users to modify basic system configuration. This information is stored in battery-backed RAM so that it retains Setup information even if the system power is turned off.

The system BIOS manages and executes variety of hardware related functions including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

Enter the BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

Step1. Power on the computer. The system will perform its POST (Power-On Self Test) routine checks.

Step2. Press the <Del> key immediately, or at the following message:
Press DEL to enter SETUP, or simultaneously press <Ctrl>,<Alt>, <Esc> keys

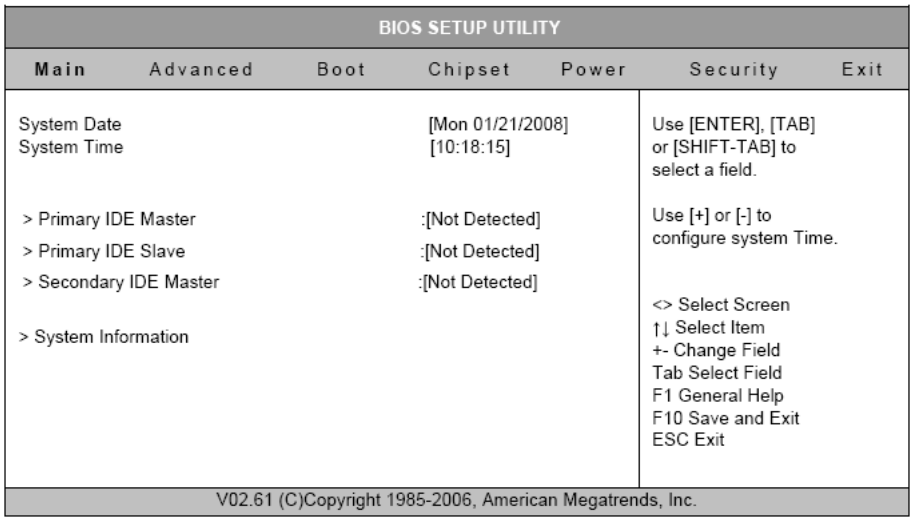
1. If you miss wordings mentioned in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the <RESET> switch located at the computer's front-panel. You may also reboot by simultaneously pressing the <Ctrl>,<Alt>, <Del> keys simultaneously.
2. If you do not press the keys in time and system does not boot, the screen will prompt an error message, and you will be given the following options:

"Press F1 to Continue, DEL to Enter Setup"

Step3. When you enter the BIOS program, the CMOS Setup Utility will display the Main Menu, as shown in the next section.

■ 3.2 Main

The BIOS Setup is accessed by pressing the DEL key after the Power-On Self-Test (POST) memory test begins and before the operating system boot begins. Once you enter the BIOS Setup Utility, the Main Menu will appear on the screen. The Main Menu provides System Overview information and allows you to set the System Time and Date. Use the “<” and “>” cursor keys to navigate between menu screens.


BIOS SETUP UTILITY
Main Advanced Boot Chipset Power Security Exit
System Date [Mon 01/21/2008]
System Time [10:18:15]
> Primary IDE Master :[Not Detected]
> Primary IDE Slave :[Not Detected]
> Secondary IDE Master :[Not Detected]
> System Information
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system Time.
<> Select Screen
↑↓ Select Item
+- Change Field
Tab Select Field
F1 General Help
F10 Save and Exit
ESC Exit
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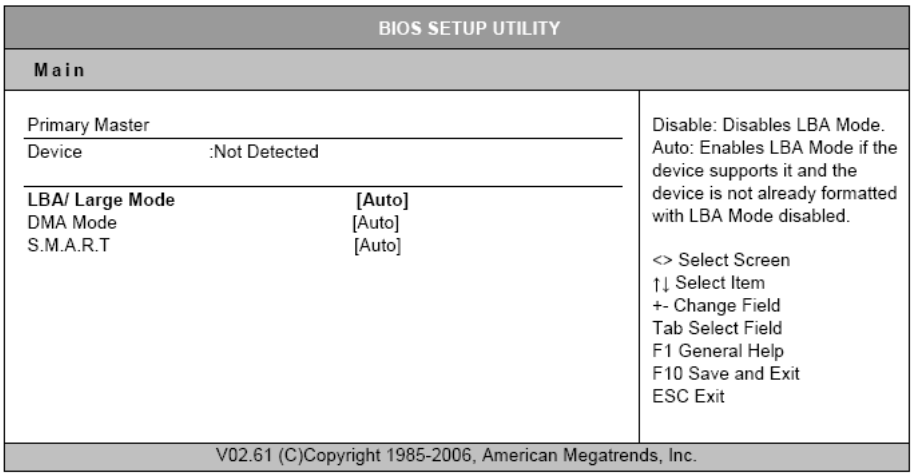
Below table is described for Primary IDE Master, Primary IDE Slave, Secondary IDE Master, Secondary IDE Slave setting.


BIOS SETUP UTILITY
Main
Primary Master
Device :Not Detected
LBA/ Large Mode [Auto]
DMA Mode [Auto]
S.M.A.R.T [Auto]
Disable: Disables LBA Mode.
Auto: Enables LBA Mode if the device supports it and the device is not already formatted with LBA Mode disabled.
<> Select Screen
↑↓ Select Item
+- Change Field
Tab Select Field
F1 General Help
F10 Save and Exit
ESC Exit
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LBA/Large Mode

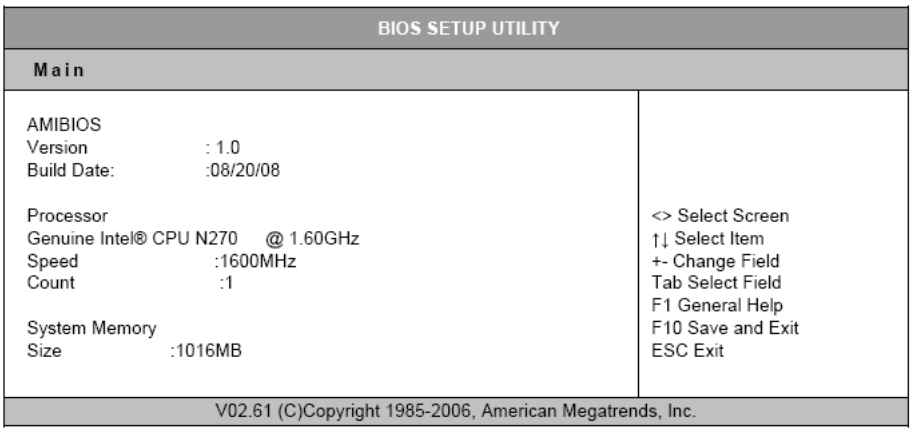
Enables or disables the LBA (Logical Block Addressing)/ Large mode. Setting to Auto enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Options: Disabled, Auto

DMA Mode

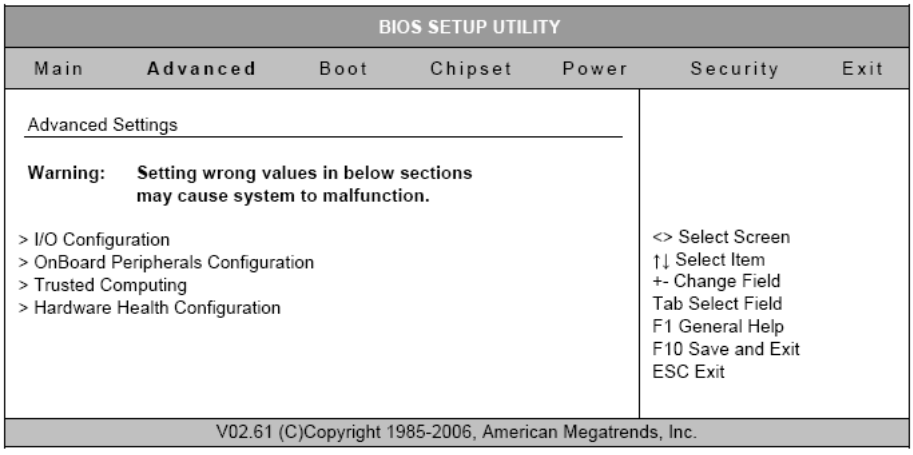
Options : Auto, SWDMA, MWDMA, UDMA mode.

S.M.A.R.T

SMART stands for Smart Monitoring, Analysis, and Reporting Technology. It allows AMIBIOS to use the SMART protocol to report server system information over a network. Options: Auto, Disabled, Enabled



■ 3.3 Advanced


BIOS SETUP UTILITY
Main Advanced Boot Chipset Power Security Exit
Advanced Settings
Warning: Setting wrong values in below sections may cause system to malfunction.
> I/O Configuration
> OnBoard Peripherals Configuration
> Trusted Computing
> Hardware Health Configuration
<> Select Screen
↑↓ Select Item
+- Change Field
Tab Select Field
F1 General Help
F10 Save and Exit
ESC Exit
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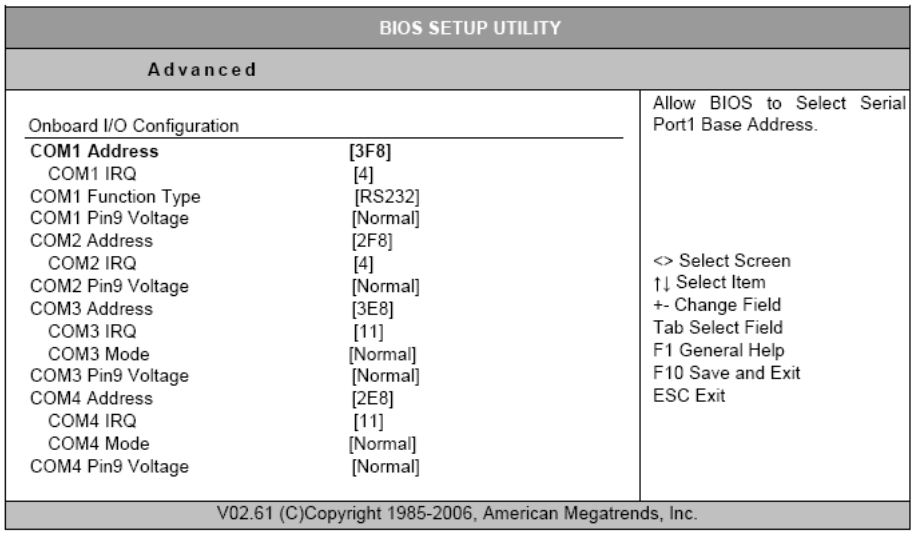
Press <Enter> to select a sub-menu for detailed options



COM1 Address
Options: Disabled, 3F8, 3E8, 2E8

COM1 IRQ
Options: 3, 4, 10, 11

COM1 Function Type
Options: RS232, RS422, RS485

COM1 Pin9 Voltage
Options: Normal, 5V, 12V

COM2 Address
Options: Disabled, 2F8, 3E8, 2E8

COM 2 IRQ
Options: 3, 4, 10, 11

COM2 Pin9 Voltage
Options: Normal, 5V, 12V

COM3 Address
Options: Disabled, 3F8, 2F8, 3E8, 2E8, 2F0, 2E0

COM3 IRQ
Options: 3, 4, 10, 11

COM3 Mode
Options: Normal, IrDA, ASK IR, Smart Card Reader

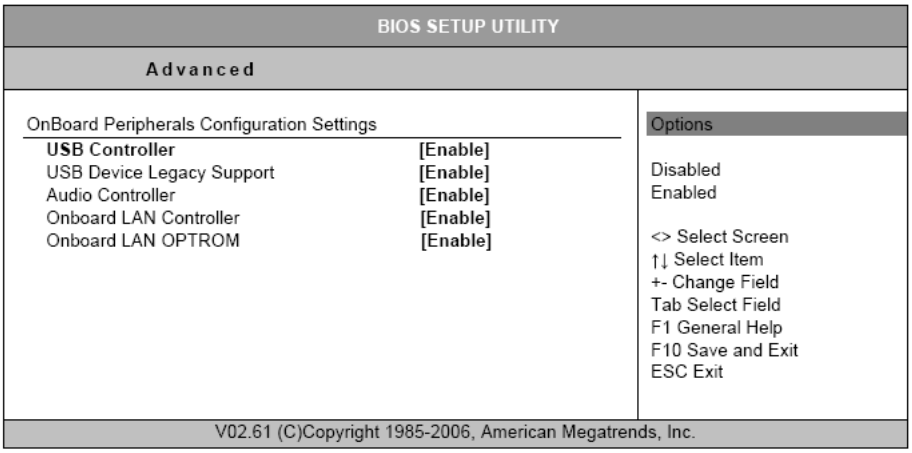
COM3 Pin9 Voltage
Options: Normal, 5V, 12V

COM4 Address
Options: Disabled, 3F8, 2F8, 3E8, 2E8, 2F0, 2E0

COM4 IRQ
Options: 3, 4, 10, 11

COM4 Mode
Options: Normal, IrDA, ASK IR, Smart Card Reader

COM4 Pin9 Voltage
Options: Normal, 5V, 12V



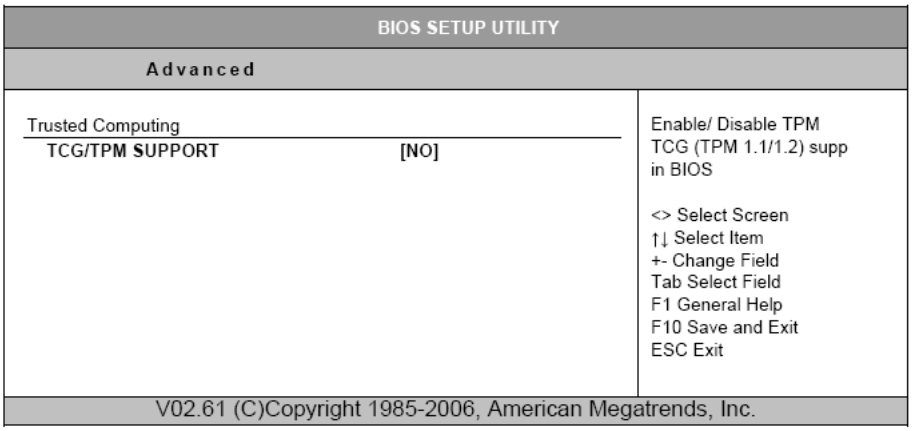
USB Controller
Options: Enabled, Disabled

USB Device Legacy Support
Options: Enabled, Disabled, Auto

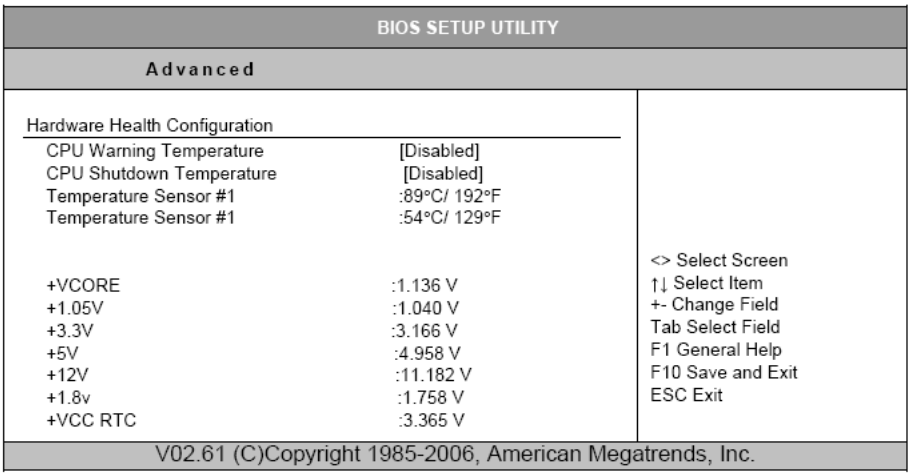
Audio Controller
Options: Enabled, Disabled

Onboard LAN Controller
Options: Enabled, Disabled

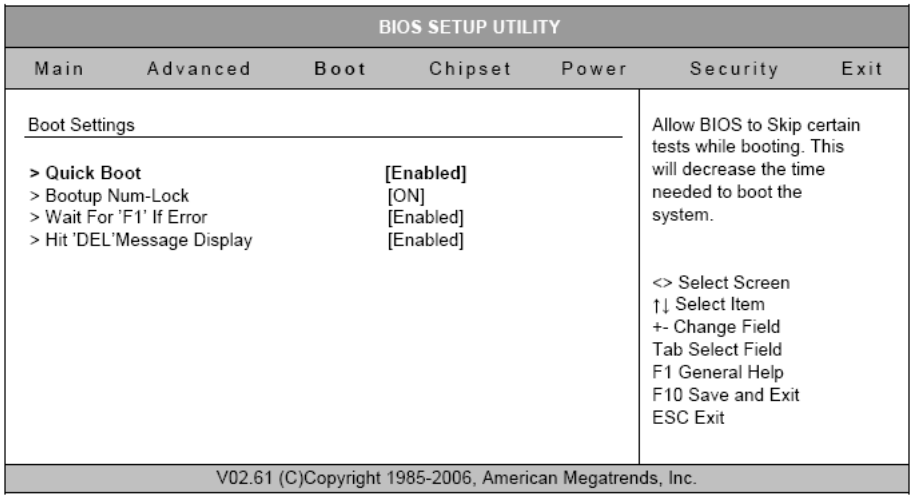
Onboard LAN Optrom
Options: Enabled, Disabled



TCG/TPM SUPPORT
Options: No, Yes



■ 3.4 Boot


BIOS SETUP UTILITY
Main Advanced Boot Chipset Power Security Exit
Boot Settings
> Quick Boot [Enabled]
> Bootup Num-Lock [ON]
> Wait For 'F1' If Error [Enabled]
> Hit 'DEL'Message Display [Enabled]
Allow BIOS to Skip certain tests while booting. This will decrease the time needed to boot the system.
<> Select Screen
↑↓ Select Item
+- Change Field
Tab Select Field
F1 General Help
F10 Save and Exit
ESC Exit
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Quick Boot

Enabling this item allows BIOS to skip some Power On Self Tests (POST) while booting to decrease the time needed to boot the system. When set to [Disabled], BIOS performs all the POST items.

Options: Disabled, Enabled

Bootup Num-Lock [On]

Allow you to select the power-on state for the NumLock.

Options: Off, On

Wait for 'F1' If Error [Enabled]

When set to Enabled, the system waits for F1 key to be pressed when error occurs.

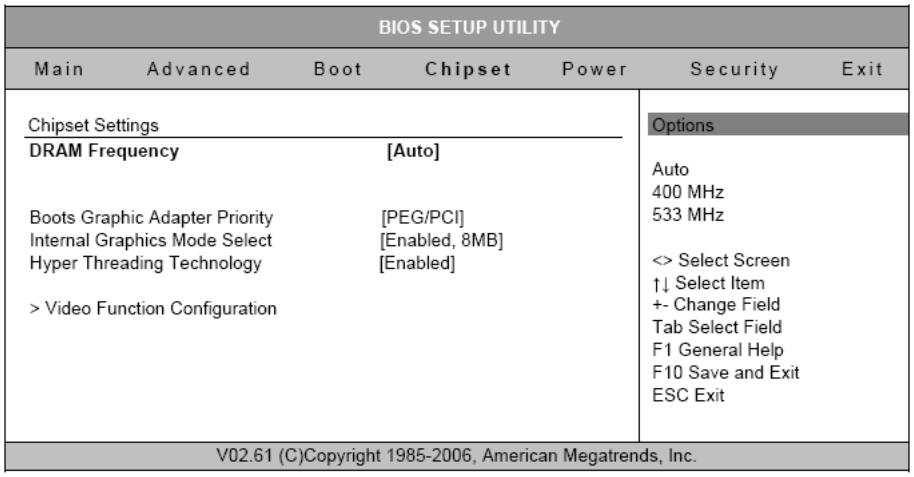
Options: Disabled, Enabled

Hit 'DEL' Message Display [Enabled]

When set to Enabled, the system displays the message ‘Press DEL to run Setup’ during POST.

Options: Disabled, Enabled

■ 3.5 Chipset



DRAM Frequency

Options: Auto, 400 MHz, 533MHz

Boots Graphic Adapter Priority

Select which graphics controller to use as the primary boot device.

Options: IGD, PCI/IGD, PCI/PEG, PEG/IGD, PEG/PCI

Internal Graphics Mode Select

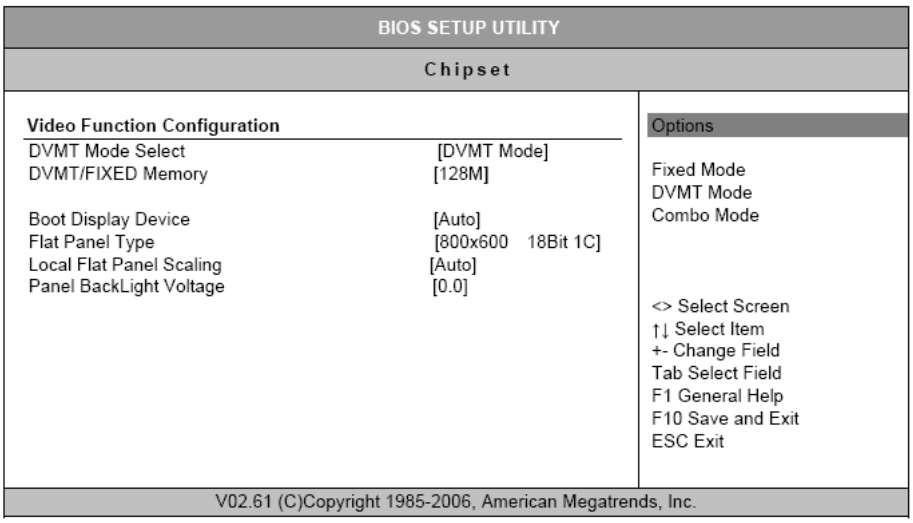
Select which graphics controller to use as the primary boot device.

Options: Disabled, Enabled 1MB, Enabled 8M

Hyper Threading Technology

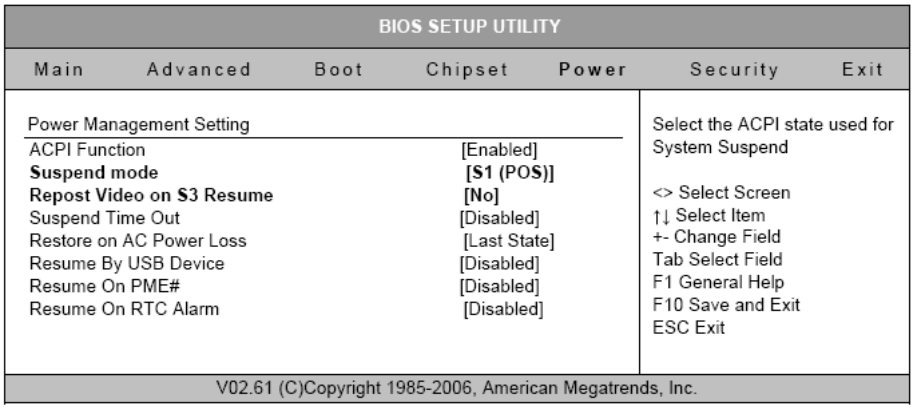
Options: Disabled, Enabled

☞ Video Function Configuration



DVMT Mode Select
Options: Fixed Mode, DVMT Mode, Combo Mode
DVMT/FIXED Memory
Options: 64MB, 128MB, Maximum DVMT
Boot Display Device
Options: VGA, DVI, LVDS, VGA+LVDS
Flat Panel Type
Options:
640x480 18Bit 1CH, 800x600 18Bit 1CH, 1024x768 18Bit 1CH, 1280x800 18Bit 1Ch
Local Flat Panel Scaling
Options: Auto, Forced Scaling, Disabled
Panel BackLight Voltage
Options: Min 0.0V, Max:5.0V

■ 3.6 Power


BIOS SETUP UTILITY
Main Advanced Boot Chipset Power Security Exit
Power Management Setting
ACPI Function [Enabled]
Suspend mode [S1 (POS)]
Repost Video on S3 Resume [No]
Suspend Time Out [Disabled]
Restore on AC Power Loss [Last State]
Resume By USB Device [Disabled]
Resume On PME# [Disabled]
Resume On RTC Alarm [Disabled]
Select the ACPI state used for System Suspend
<> Select Screen
↑↓ Select Item
+- Change Field
Tab Select Field
F1 General Help
F10 Save and Exit
ESC Exit
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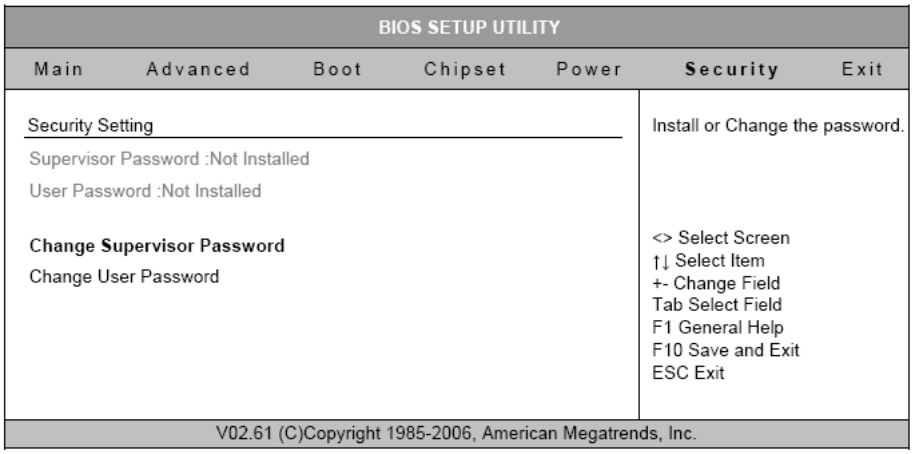
ACPI Function
Enable/ Disable ACPI support for Operating System.
ENABLE: If OS supports ACPI, DISABLE: IF OS Does not support ACPI.
Suspend mode
Options: S1(POS), S3(STR)
Repost Video on S3 Resume
Determines whether to invoke VGA BIOS post on S3/STR resume.
Options: No, Yes
Suspend Time Out
Options: Disabled, 1 Min, 2 Min, 4 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 50Min, 60 Min
Restore on AC Power Loss
Options: Power OFF, Power ON, Last State
Resume By USB Device
Options: Disabled, Enabled
Resume On PME#
Options: Disabled, Enabled
Resume On RTC Alarm
Options: Disabled, Enabled

■ 3.7 Security



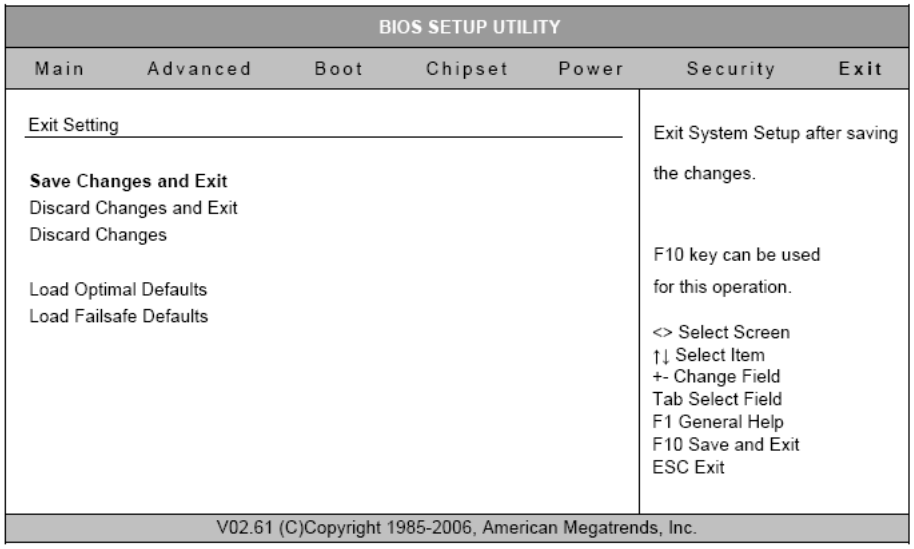
Change Supervisor Passowrd

Select this item to set or change the supervisor password. The Supervisor Password item on top of the screen displays the default Not Installed. After you have set a password, this item displays Installed.

Change User Password

Select this item to set or change the user password. The User Password item on top of the screen displays the default Not Installed. After you have set a password, this item displays Installed.

■ 3.8 Exit



Save Changes and Exit

Exit system setup after saving the changes. Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. The CMOS RAM is sustained by an onboard backup battery and stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select [Yes] to save changes and exit.

Discard Changes and Exit

Exit system setup without saving any changes. Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than system date, system time, and password, the BIOS asks for a confirmation before exiting.

Discard Changes

Discards changes done so far to any of the setup values. This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select [Yes] to discard any changes and load the previously saved values.

Load Optimal Defaults

Load Optimal Default values for all the setup values. This option allows you to load optimal default values for each of the parameters on the Setup menus, which will provide the best performance settings for your system. The F9 key can be used for this operation.

Load Failsafe Defaults

Load Optimal Default values for all the setup values. This option allows you to load failsafe default values for each of the parameters on the Setup menus, which will provide the most stable performance settings. The F8 key can be used for this operation.